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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/611,547

07/02/2003

Jun Yamaguchi

116428

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25944

7590

12/02/2005

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EXAMINER

LEVI, DAMEON E

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/611,547	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Dameon E. Levi	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-20 are rejected under 35 U.S.C. 103(a) as being obvious over
Wakabayashi et al US Patent 6560115.**

Regarding claim 1, Wakabayashi et al discloses a module comprising:

a heat radiating member(element 60, Figs 1-14B) including a circuit arrangement surface having a circuit arrangement region (element 61, Figs 1-14B)

a power circuit section(element 33, Figs 1-14B) including at least one electronic part and arranged in the circuit arrangement region(element 57,58,100 Figs 1-14B);

a wall member(element 54, Figs 1-14B); surrounding the circuit arrangement region;

and a resin layer (element 102, Figs 1-14B)disposed in a space defined by the wall member and the heat radiating member, wherein:

the electronic part has a plurality of leg portions(element 57,58,100 Figs 1-14B)and the resin layer seals least the leg portions(see column 10, lines 40-42).

The Admitted Prior Art (Fig 15) of Wakabayashi et al teaches a seal member surrounding a circuit arrangement region (see element 23, Figs 15), and the seal member is interposed between the wall member and the heat-radiating member.

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However, it would have been obvious to one skilled in the art to have included and arranged the seal member as taught by the admitted prior art in the module as taught by Wakabayashi et al (Figs 1-14B) in order to provide an effective waterproof seal for the module between the casing and the heat radiating member (see column 1, lines 40-45, and column 2, lines 20-23).

Regarding claim 2, Wakabayashi et al, in the Admitted Prior Art (Fig 15), discloses wherein the wall member defines a first groove to which the seal member is fitted (see groove in element 2, 22, 23, Fig 15).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a groove in the wall member as taught therein in the module as taught by Wakabayashi et al (Figs 1-14B) in for the purpose of accommodating a sealing ring therein to provide an effective waterproof seal for the module between the casing and the heat radiating member (see column 1, lines 40-45, and column 2, lines 20-23).

Regarding claim 3, Wakabayashi et al discloses wherein the power circuit section includes at least one bus bar; the wall member includes a hood; and an end portion of the bus bar is inserted into the hood (see column 9, lines 43-65).

Regarding claim 4, Wakabayashi et al discloses the wall member further includes a through hole communicating a side of the heat radiating member and a side of the hood; and a part of the bus bar passes through the through hole (see elements 68, 68C, 54, 80, Figs 10A-11B).

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Regarding claim 5, Wakabayashi et al discloses wherein: the wall member further includes: a recess portion; and another through hole communicating the side of the heat radiating member and the recess portion(see elements 66,66C,54,80, Figs 10A-11B).

Regarding claim 6, Wakabayashi et al discloses wherein: the bus bar has: a first portion extending in parallel with the circuit arrangement surface; and a second portion standing up from the circuit arrangement surface and inserted into the hood(see elements 41,37,35 Fig 7).

Regarding claim 7, Wakabayashi et al discloses wherein: the wall member defines a second groove; the bus bar has: a first portion extending in parallel with the circuit arrangement surface; a second portion standing up from the circuit arrangement surface; and a third portion extending through the second groove(see elements 42,39, Fig 7, elements 42, 79A, 79B, Fig 8).

Regarding claim 8, Wakabayashi et al discloses wherein the bus bar protrudes from at least one of side edges of the power circuit section in outward directions (see elements 66,68, Fig 10A-11B).

Regarding claim 9, Wakabayashi et al discloses further comprising: an insulating layer disposed between the heat radiating member and the power circuit section (see layer between elements 60 and 61, Fig 1).

Regarding claim 10, Wakabayashi et al discloses wherein the insulating layer is thermally connected with the heat radiating member and the power circuit section (see layer between elements 60 and 61, Fig 1).

Regarding claim 11, Wakabayashi et al discloses further comprising: a lid attached to the wall member to cover the power circuit section (see element 50, Fig 1).

Regarding claim 12, Wakabayashi et al discloses further comprising a bus bar constitution plate including a plurality of bus bars, wherein: the electronic part is electrically connected to the power circuit section and at least one of the bus bars (see elements 51,52, Fig 1).

Regarding claims 13-20, the methods discloses therein are deemed inherent in the assembly of the claimed apparatus since the elements used for facilitating the methods are taught or suggested in the prior art of record. The claims are thus subsequently rejected.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been applicant's arguments were carefully reviewed. A new grounds of rejection under 103(a) with the Wakabayashi reference is made that address some of applicant's arguments. the rest of applicant's arguments drawn to lack of motivation and that the prior art teaches away from the seal are not persuasive. Applicant argues that the prior art does not suggest to include the seal but teaches away from it. The Examiner has reviewed the Wakabayashi reference and does not see where it teaches away from using the seal. The references generally rearranges the prior art configuration to reach his invention and makes general comments about the problems of the prior art design as a whole. The lower portions are made separate, but none of the discussions teach away from using a seal. The improved invention of Wakabayashi still has a portions joined

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together 954) and (60) and one would be motivated to use a seal to render that junction waterproof. The use of the seal has additional benefits for making the junction impermeable. Therefore, examiner does not agree that the disclosure as a whole teaches away from a seal and cannot find any portion of the reference that states so. An additional point is that the claims recite that the seal surrounds the circuit and that it is interposed between the wall and the member. The seal (23) as explained in the rejection meets these limitations.

On the argument that there is no motivation to use a seal, examiner notes that it is old and routine to use a seal anywhere two portions are joined and an air-tight or impermeable configuration is desired. In this art, seals are also often used to seal any gaps against the passage of emi. Thus, the examiner believes that use of seals and their benefits are well known to those of ordinary skill and the rejection specifically sets forth at least some of these motivations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dameon E. Levi whose telephone number is (571) 272-2105. The examiner can normally be reached on Mon.-Fri. (9:00 - 5:00).

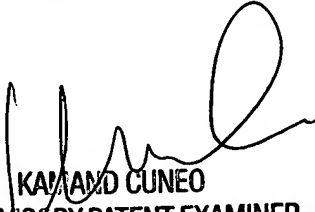
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dameon E Levi
Examiner
Art Unit 2841

DEL



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